



Trend of Diabetes, Obesity, and Overweight among Adults in New York State, 1995-1999

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Introduction

Diabetes is a chronic disease defined by a higher than normal blood glucose (sugar) level. The two most common types of diabetes are type 1 (formally called Insulin-Dependent Diabetes Mellitus) accounting for about 5-8 percent of all diabetes, and type 2 (formally called Non Insulin-Dependent Diabetes Mellitus) accounting for about 92-95 percent of all diabetes.

Type 1 diabetes develops most often in children and young adults with a genetic predisposition, though it can appear at any age. Type 2 diabetes has a strong link to excess weight gain ^{1,2}. Overweight individuals over 45 years of age are most likely to develop type 2 diabetes, but there is an increasing trend of type 2 diabetes in overweight younger individuals, including children and adolescents ³.

Studies from the Centers for Disease Control and Prevention found that the prevalence of diabetes in the United States has increased 33% between 1990 and 1998, and the trend was still continuing in year 2000 ^{4,5}. The most recent estimates of diagnosed diabetes including gestational diabetes in U.S. adults has reached 7.3% ⁵. Likewise, the weight status of Americans increased considerably during the last decade. The percentage of U.S. adults who are obese (body mass index or BMI \geq 30) increased from 12.0% in 1991 to 19.8% in 2000, a 61% increase ^{5,6}. The prevalence of overweight (BMI \geq 25) in adults has also increased from 45.0% in 1991 to 56.4% in 2000 ⁵.

A similar upward trend of diabetes and weight status is expected to be found in New York State. In this report, a five-year trend (1995-1999) of diabetes and weight status among adult New York State residents was examined. Discussions to understand the implications of the trend will follow.

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Methods

This report used the New York State BRFSS data from years 1994 to 2000. Diagnosed diabetes was defined by an affirmative response to the question, “Have you ever been told by a doctor that you have diabetes?” Cases of gestational diabetes, which is normally reported by 1.0 to 2.5 percent of women, were considered non-diabetic in this report. The prevalence of overweight and obesity was measured by self-reported weight and height without shoes. BMI was calculated as weight in kilograms divided by height in meters squared. Overweight was defined by BMI 25 or greater, and obesity was defined by BMI 30 or greater ⁷. BRFSS data prior to 1994 were not included because a coding scheme that did not allow to distinguish gestational diabetes was used in those years.

Prevalence estimates were generated by the three-year moving average technique. First, annual estimates were calculated from single year weighted BRFSS data. Three consecutive years of estimates were then summed and divided by 3 to generate the average estimate for the middle year. For example, the estimated prevalence and number of adults with diagnosed diabetes for 1999 was the average of 1998, 1999 and 2000. The moving average technique smooths out the year-to-year fluctuation in diabetes prevalence estimates resulting from a small number of cases. For the purpose of comparability, the three-year moving average technique was also used to estimate the prevalence and number of adults who were obese and overweight.

Results

In New York State, the estimated three year average prevalence of self-reported diagnosed diabetes among adults aged 18 years and older increased from 3.8 percent in 1995 to 6.0 percent in 1999, a 58 percent increase (Table 1). The estimated number of adults with diabetes increased from 532,000 in 1991 to 832,000 in 1999. The estimated three-year average prevalence of obesity increased from 14.2 percent in 1991 to 17.1 percent in 1999, a 20 percent increase. In 1999, about 2.4 million adult New Yorkers were estimated to be obese.

The three-year average prevalence of overweight also increased from 50.1 percent in 1991 to 54.1 percent in 1999, an 8 percent increase. The estimated number of adults who were overweight reached nearly 7.5 million in 1999.

Discussions

Using the three-year moving average technique, this report shows that New York adults experienced a steadily upward trend of diabetes, obesity, and overweight between 1995 and 1999. This parallels the overall trend in the U.S. adults ⁴⁻⁶. Figures from the 1999 estimates indicate that over half of adult New Yorkers (54.1%) were overweight, about 1 in 6 was obese, and 6 percent had diagnosed diabetes. Moreover, if undiagnosed diabetes is considered, it is likely that close to 10 percent had diabetes⁸. The prevalence of obesity and overweight was also likely to be underestimated, because overweight individuals tend to underestimate their weight in a self-report survey⁹.

Being overweight or obese is the single most important behavioral risk linked to diabetes, but it is also modifiable and preventable ¹⁰. Encouraging results from a large clinical trial indicate that middle-aged overweight individuals significantly reduced the risk of diabetes by achieving a modest weight loss and other lifestyle changes ¹¹. Increasing physical activity, and the diet low in animal fat, total calories and high in complex carbohydrate are recommended to reduce weight and decrease the risk of diabetes. Adults and children at any age can benefit from these positive lifestyle changes.

Diabetes is currently the 7th leading cause of death among New Yorkers accounting for 3,849 deaths in 1999 ¹². Both diabetes and obesity are also major risk factors for cardiovascular disease, the number one cause of death in New York State ¹². The State Department of Health is supporting a number of programs to reduce the burden of diabetes and other conditions associated with excessive weight gain. Programs like Diabetes Control and Prevention, Healthy Heart, and Eat Well Play Hard include educational intervention and community-based wellness activities to help New Yorkers make positive lifestyle changes and to maintain a healthy weight.

Table I
Trends for diagnosed diabetes, obesity, and overweight in New York State adults
using 3-year moving average, 1995-1999.

	Middle Year of Three-Year Average				
	1995	1996	1997	1998	1999
Prevalence of diagnosed diabetes* (%)	3.8	4.2	4.8	5.5	6.0
Estimated number of adults with diagnosed diabetes (in thousands)	532	578	665	761	832
Prevalence of obesity (%)	14.2	14.8	15.6	16.6	17.1
Estimated number of obese adults (in thousands)	1,961	2,046	2,160	2,294	2,374
Prevalence of overweight (%)	50.1	50.5	51.2	51.8	54.1
Estimated number of overweight adults (in thousands)	6,914	6,975	7,082	7,167	7,486

** Excluding gestational diabetes*

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